

Recent Papers by IBM Authors

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- Papers are listed alphabetically by name of journal.

A

System R: A Relational Approach to Data Base Management, M. M. Astrahan, M. W. Blasgen, D. D. Chamberlin, K. P. Eswaran, J. N. Gray, P. P. Griffiths, W. F. King, R. A. Lorie, P. R. McJones, J. W. Mehl, G. R. Putzolu, I. L. Traiger, B. W. Wade, and V. Watson (RES San Jose, CA), *ACM Transactions on Data Base Systems* 1, No. 2, 97-137 (June 1976).

A Study of Grain Boundaries between Molybdenum Trioxide Smoke Particles, J. W. Matthews (RES Yorktown Hts., NY), *Acta Metallurgica* 24, No. 5, 381-390 (May 1976).

Up-Conversion and Optical Energy Storage in CdS, M. Schmidt and P. B. Perry (RES Yorktown Hts., NY), *Applied Physics Letters* 28, No. 11, 647-648 (June 1, 1976).

Model for Current-Driven Motion of Magnetic Bubble Lattices, G. R. Henry (RES San Jose, CA), *Applied Physics Letters* 29, No. 1, 63-65 (July 1, 1976).

Mass Loss and Asymmetries in the Lines of Iota Corona Borealis, A. H. Karp (RES Yorktown Hts., NY), *Astrophysical Journal* 205, No. 2, L93-L96 (April 15, 1976).

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Adhesion Measurement of Thin Films, K. L. Mittal (SPD Poughkeepsie, NY), *Electrocomponent Science and Technology* 3, No. 1, 21-42 (1976).

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Dimensional Stability of Biaxially Oriented Polymer Disks, D. B. Bogy (University of California at Berkeley) and F. E. Talke (RES San Jose, CA), *Zeitschrift für Angewandte Mathematik und Mechanik* 56, No. 3, T330 (1976).

A Numerical Approach to Transverse Vibrations of a Clamped Rotating-Disk, E. P. Hofer and H. J. Greenberg (RES San Jose, CA), *Zeitschrift für Angewandte Mathematik und Mechanik* 56, No. 3, T331 (1976).

• Book abstracts

Computer System Performance, H. Hellerman (State University of New York at Binghamton) and T. F. Conroy (DPD Poughkeepsie, NY), McGraw-Hill Book Co., Inc., New York, 1975.

This book deals with computer system performance, as opposed to function. The first five chapters introduce performance and the nature of performance evaluation, including extensive sections on statistics and on queuing models. The last six chapters deal with performance issues that are specific to computer systems, including chapters on single-component and single-job performance, operating systems, evolution and fundamentals, the IBM OS/360 operating system; time-sharing systems; virtual-storage principles and virtual storage, and system design context.

Data Processing in 1980-1985, seven authors including N. A. France (SPD Kingston, NY), John Wiley & Sons, Inc., New York, 1976.

This book is the outcome of a study sponsored by SHARE Inc. and represents the majority views of its SILT Committee. It focuses on the mainstream of large, general purpose, business-oriented data processing systems and is principally concerned with data processing in the United States. This study explores the growth potential of the DP industry, extrapolates the expected developments in DP technology and practice, determines the developments required to realize this potential, and identifies the areas in which requirements exceed expectations. It examines the gaps between the needed capabilities and the capabilities that appear to be emerging, identifies changes needed in the emphasis and direction of DP research and development to bridge these gaps, and recommends steps to be taken.

Digital Signal Processing, A. Peled (RES Yorktown Hts., NY) and B. Liu (Princeton University, Princeton, NJ), John Wiley & Sons, Inc., New York, 1976.

This book provides an integration of signal processing theory and hardware implementation techniques. Chapter topics also include digital filter design; hardware for both general and special purpose signal processors; use of the fast Fourier transform; and considerations arising from the use of finite word length, such as scaling and limit cycles. In addition, two real projects are used as examples, computer programs are included, and there are numerous specific references to other detailed subject treatments.

Formal Languages and Programming, nine authors including A. D. Falkoff (DPD Philadelphia, PA); edited by R. Aguilar (IBM Spain, Madrid Scientific Center); North-Holland Publishing Co., Amsterdam, 1976.

This book is the proceedings of an international symposium on theoretical aspects of computer science held in April 1975 at the Autonomous University of Madrid/IBM Scientific Center. The nine included papers, some of which are research reports and some more expository in nature, discuss topics in the fields of formal languages, interactive programming, and programming theory. Among the subjects are schematic languages, context-free grammar forms, extensible programming languages, and conversational programming languages.

Magnetic Bubble Technology: Integrated-Circuit Magnetism for Digital Storage and Processing, Hsu Chang, editor (RES Yorktown Heights, NY), IEEE Press—The Institute of Electrical and Electronics Engineers, Inc., New York, 1975.

This compilation of previously published papers offers a current view of the state of the art of magnetic bubble technology. The

46 reprinted papers are grouped according to topic in six chapters. About one-third of the book consists of tutorial commentary by the editor and includes a critical examination of the current uses of the technology and an assessment of its potential applications. The chapters following an historical review of magnetic bubble research and development are devoted to devices, applications, physics, materials, and technology forecast. There is also a bibliography of 1300 papers for the period 1950-1974 and abstracts of U.S. patents on bubble domain devices.